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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,802	09/22/2003	Zhongmin Hu	SEMT116058	2157
26389 7590 01/17/2007 CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC 1420 FIFTH AVENUE SUITE 2800 SEATTLE, WA 98101-2347			EXAMINER LEADER, WILLIAM T	
			ART UNIT	PAPER NUMBER
			1742	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/17/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/667,802

Applicant(s)

HU ET AL.

Examiner

William T. Leader

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13,20-22 and 24-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13,20-22 and 24-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Receipt of the papers filed on October 20, 2006, is acknowledged. Claims 1-12, 14-19, 23 have been canceled. Claims 13, 20-22 and 24-27 are pending.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 13, 20-22 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andricacos et al (5,789,320) in view of Kohl (4,376,018) and Brenner *Electrodeposition of Alloys* for the reasons of record and in view of the following comments.

4. Applicant's Remarks have been carefully considered but are not deemed to be persuasive. At page 4 of the Remarks, applicant states that independent claim 13 has been amended to recite a method for depositing a platinum-metal alloy where the second metal is selected from nickel, cobalt, lead, and tin, and the pH of the acidic bath ranges from about 0.5 to 3.0. Applicant argues that Andricacos et al, Kohl and Brenner alone or in combination do not teach or suggest a method for depositing a platinum metal alloy that includes these features. This argument is not convincing. As indicated in the previous office action, the Andricacos patent discloses a process for depositing a noble metal alloy onto a surface of a microelectronic workpiece. The plated noble metals may include pure noble metals or alloys of noble metals. In the list of noble metals set forth by Andricacos, platinum is first (column 2, line 10. In the examples of alloys, nickel is

utilized as a non-noble metal. Thus, Andricacos suggests the metals recited in claim 13 as amended. As noted in the previous office action, Andricacos et al discloses that the bath may be acidic but does not specifically disclose the use of such a plating bath or give ranges of appropriate acidic pH values.

5. As previously indicated, the Kohl patent discloses the electrodeposition of metals and alloys. The metals include the noble metals gold, silver, palladium, platinum and ruthenium. Non-noble metals include copper, nickel, cobalt, chromium, tin and lead. See column 1, lines 16-24. Thus, Kohl suggests deposition of the metals included in the alloys recited in claim 13 as amended. Kohl gives examples of plating baths including these metals. Nickel, one of the metals recited by applicant, may be deposited from a sulfate bath with a pH of 0.2-4.0. See column 5, line 14. Applicant's claimed range for pH includes the middle portion of this range. It is noted that instant claim 13 recites the deposition from a bath containing a first species and a second species but does not limit the concentrations of the species. Thus, claim 13 includes alloys which are predominantly nickel. As shown by the references, pH is a result effective variable recognized in the art. The use of pH value from within the range disclosed by Kohl for a metal recited in claim 13 as amended would have been obvious to one of ordinary skill in the art at the time the invention was made.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WL

William Leader
January 8, 2007

ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700